



## CHEMISTRY

### BOOKS - TARGET CHEMISTRY (HINGLISH)

#### POLYMERS

#### Classical Thinking

1. Polymers are \_\_\_

- A. micromolecules
- B. macromolecules
- C. sub-micromolecules
- D. sub-macromolecules

**Answer: B**



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2. A molecule or group of molecules which are repeated to get a polymer is termed as \_\_\_\_\_

- A. monomer
- B. oligomer
- C. dimer
- D. tetramer

**Answer: A**

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3. Which of the following is not a polymer?

- A. Silk
- B. DNA

C. DDT

D. Starch

**Answer: C**



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4. Regenerated fibers are\_\_\_\_\_.

A. synthetic

B. plant fibres

C. semi-synthetic

D. Animal fibres

**Answer: C**



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5. The process of formation of macromolecules by combination of a few bifunctional monomers with the elimination of small molecules is called \_

- A. condensation polymerization
- B. free radical polymerization
- C. addition polymerization
- D. either (C) or (D)

**Answer: A**



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6. Which of the following can be remoulded and recycled without producing any change?

- A. Thermosetting polymers
- B. Thermoplastic polymers
- C. Fibers

D. Elastomers

**Answer: B**

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7. Define thermoplastics and thermosetting polymers and give examples of each.

A. linear polymers

B. highly cross-linked polymers

C. either linear or branched chain polymers

D. crystalline

**Answer: C**

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8. PVC is a/an \_\_\_\_\_ polymer.

- A. linear
- B. addition
- C. thermoplastic
- D. all the above

**Answer: D**



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9. Heteropolymers are also called as \_\_\_

- A. dimers
- B. copolymers
- C. tetramers
- D. homopolymers

**Answer: B**



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**10.** Arrange the steps according to the order followed in the free radical polymerisation.

- (i) Chain initiating step
- (ii) Chain terminating step
- (iii) Free radical formation
- (iv) Chain propagation step

A. iv, iii, i, ii

B. iii, i, ii, iv

C. iii, i, iv, ii

D. i, ii, iv, iii

**Answer: C**



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11. Vinyl chloride can be converted into PVC. In this reaction the catalyst used is \_\_\_\_\_.

- A. peroxide
- B. cuprous chloride
- C. anhydrous zinc chloride
- D. anhydrous  $AlCl_3$

**Answer: A**

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12. Polythene is an \_\_\_\_\_.

- A. addition copolymer
- B. addition homopolymer
- C. condensation polymer



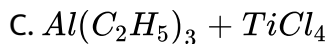
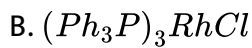
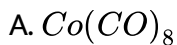
D. thermosetting polymer

**Answer: B**



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13. Ziegler-Natta catalyst is



D. Co-Th alloy

**Answer: C**



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14. Symbolic name for teflon is\_\_\_\_\_.

A. PTFE

B. HDPE

C. PVC

D. LDPE

**Answer: A**



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15. Stepwise reaction between two or more bifunctional monomers by elimination of simple molecules like water or alcohol is called \_\_\_\_\_ polymerization.

A. chain growth

B. step growth

C. condensation

D. both (B) and (C)

**Answer: D**

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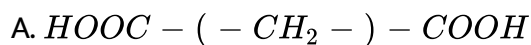
**16.** Nylon-6,6 is a

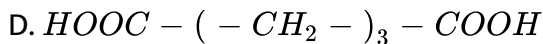
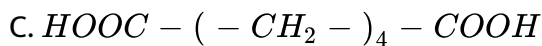
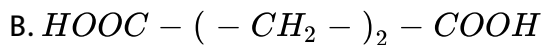
- A. addition polymer
- B. condensation polymer
- C. addition polyamide
- D. condensation polyester

**Answer: B**

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**17.** The formula for adipic acid is\_\_\_\_\_.





**Answer: C**

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**18.** The total number of carbon atoms present in the starting materials used for nylon-6,6 are \_\_\_\_.

A. 6

B. 8

C. 10

D. 12

**Answer: D**

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19. Nylon salt is\_\_\_\_\_.

- A. sodium adipate
- B. disodium adipate
- C. hexamethylene ammonium adipate
- D. hexamethylene diammonium adipate

**Answer: D**



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20. Nylon is an example of

- A. polyamide
- B. polythene
- C. polyester
- D. polysaccharide

**Answer: A**

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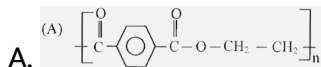
21. A similarity between nylon-6 and nylon-6,6 is that \_\_\_\_.

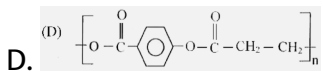
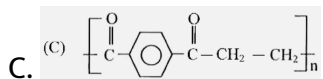
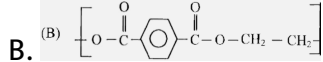
- A. they are isomers
- B. starting materials for their manufacture are same
- C. the sum of all the carbon atoms in their monomers is six
- D. they are polymers

**Answer: D**

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22. Which one from the following is the Terylene polymer ?





**Answer: B**

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23. The reaction between DMT and ethylene glycol to form dihydroxy diethyl terephthalate is called\_\_\_\_\_.

- A. esterification
- B. transesterification
- C. polymerisation
- D. aldol condensation

**Answer: B**

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24. Cotton blended with terylene .forms \_\_\_\_\_.

- A. terrycot
- B. synthetic cotton
- C. terry wool
- D. synthetic wool

**Answer: A**



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25. Fibre used in making magnetic recording tape is \_\_\_\_\_.

- A. nylon-6
- B. nylon-6,6
- C. terylene



D. viscose rayon

**Answer: C**



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**26.** Wash and wear clothes are manufactured using\_\_\_\_\_.

A. nylon fibres

B. cotton mixed with nylon

C. terylene fibres

D. wool fibres

**Answer: C**



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**27.** Terylene is\_\_\_\_\_.

- A. resistant to acid
- B. resistant to cold alkali
- C. insoluble in most organic solvents
- D. all of these

**Answer: D**

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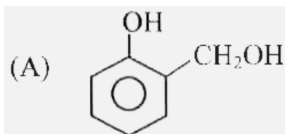
**28.** Bakelite is formed by \_\_\_\_\_.

- A. HCHO and ethylene
- B. HCHO and phenol
- C. phenol and ethylene
- D. phenol and ethanal

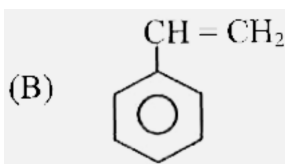
**Answer: B**

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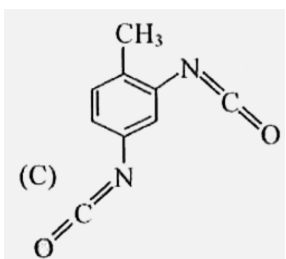
29. Which of the following represents structure of melamine?



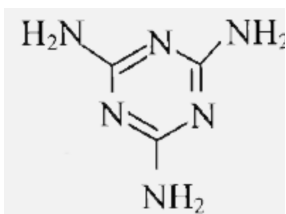
A.



B.



C.



D.

Answer: D



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**30.** The plastic household crockery is prepared by using

- A. melamine and tetrafluoroethane
- B. malonic acid and hexamethyleneneamine
- C. melamine and vinyl acetate
- D. melamine and formaldehyde

**Answer: D**



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**31.** Which of the following is obtained as latex?

- A. Polymer of 2-chlorobuta-1,3-diene
- B. Polymer of 2-methylbuta-1,3-diene
- C. Polymer of buta-1,3-diene and styrene
- D. both (A) and (B)

**Answer: B**



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**32.** Natural rubber is a Polymer of \_\_\_\_.

A. buta-1,3-diene

B. ethylene

C. 2-methylbuta-1,3-diene

D. styrene

**Answer: C**



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**33.** The process of vulcanization makes rubber\_\_\_\_\_.

A. soluble in water

B. soluble in alcohol

C. hard

D. soft

**Answer: C**



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**34.** For making tyres, \_\_ is added to natural rubber during vulcanization.

A. 1% -3% sulphur

B. 3% - 10% sulphur

C. 20% - 30% sulphur

D. 30% - 50% sulphur

**Answer: B**



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35. Buna-S is known as \_\_\_\_\_.

- A. butyl rubber
- B. chloroprene
- C. Gutta-Percha
- D. styrene butadiene rubber

**Answer: D**



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36. Neoprene, a synthetic rubber contains which of the following element besides  $C$  and  $H$

- A. N
- B. O
- C. Cl
- D. F

**Answer: C**

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**37.** A copolymer of isobutylene and isoprene is called \_\_\_\_\_

A. butyl rubber

B. buna-S

C. buna-N

D. thiokol

**Answer: A**

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**38.** Which is NOT a rubber polymer?

A. Neoprene



B. Gutta Percha

C. Buna-S

D. Dacron

**Answer: D**



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39. \_\_\_\_ polymers are resistant to environmental degradation process and do not degrade on their own but accumulate as solid waste materials.

A. Natural

B. Semi-synthetic

C. Synthetic

D. All of these

**Answer: C**



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40. Which of the following monomers are used in preparation of PHBV ?

- A. 3-Hydroxybutanoic acid and 3-Hydroxypentanoic acid
- B. 2-Hydroxybutanoic acid and 2-Hydroxypentanoic acid
- C. 2-Hydroxypropanoic acid and 3-Hydroxybutanoic acid
- D. 3-Hydroxypropanoic acid and 2-hydroxybutanoic acid

**Answer: A**



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41. Which of the following is a biodegradable polymer?

- A. cellulose
- B. polyethene
- C. polyvinyl chloride
- D. nylon-6

**Answer: A**

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**42.** Which of the following compounds is NOT a polymer?

A. Cellulose

B. Wool

C. Silk

D. DMT

**Answer: D**

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**43.** Which of the following is a regenerated fibre?

A. Nylon-6

B. Nylon 6,6

C. Viscose rayon

D. Terylene

**Answer: C**



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**44.** Which is a naturally occurring polymer?

A. Polythene

B. PVC

C. Terylene

D. Protein

**Answer: D**



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45. Formaldehyde is NOT used in the manufacture of the polymer \_\_\_\_.

- A. bakelite
- B. nylon-6
- C. urea resin
- D. melamine resin

**Answer: B**



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46. IUPAC name of adipic acid is

- A. Tetramethylene-2,4-dioic acid
- B. Tetramethylene dicarboxylic acid
- C. Hexane-1,6-dicarboxylic acid
- D. Hexane-1,6-dioic acid

**Answer: D**

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**47.** The IUPAC name of  $H_2N( - CH_2 - )_6NH_2$  is called .

- A. Hexamethylene-1,6-diamine
- B. 1,6-Diaminohexamethylene
- C. Hexane-1,6-diamine
- D. Hexamethylene diamine

**Answer: C**

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**48.** Which polymer from the following is prepared from cyclic monomer ?

- A. Terylene

B. Nylon-6,6

C. Nylon-6

D. Dacron

**Answer: C**



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**49.** Nylon polymers are\_\_\_\_\_.

A. acidic

B. basic

C. amphoteric

D. neutral

**Answer: C**



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50. The fibre that CANNOT be attacked by moth is\_\_\_\_\_.

- A. cotton
- B. silk
- C. jute
- D. terylene

**Answer: D**



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51. Which of the following is a step growth polymer?

- A. Teflon
- B. PVC
- C. Polybutadiene
- D. Bakelite



**Answer: D**



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**52.** A condensation polymer among the following is:

A. dacron

B. PVC

C. polystyrene

D. teflon

**Answer: A**



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**53.** The monomers used in the condensation polymerisation have\_\_\_\_\_.

- A. same structure
- B. alcoholic group
- C. bifunctional groups
- D. atleast one multiple bond

**Answer: C**

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**54.** An example of chain growth polymer is\_\_\_\_\_.

- A. nylon-6,6
- B. bakelite
- C. Polystyrene
- D. teflon

**Answer: D**

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55. Which of the following is a branched polymer?

A. Low density polymer

B. Polyester

C. high density polymer

D. nylon

**Answer: A**



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56. Fibre which is resistant to action of chemicals is \_\_\_\_\_.

A. cotton

B. silk

C. jute

D. terylene

**Answer: D**



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## Critical Thinking

1. The process of joining a large number of monomeric units is called as \_\_\_\_\_.

- A. catenation
- B. polymerization
- C. substitution
- D. addition

**Answer: B**



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2. Acetate rayon is a \_\_\_\_\_.

- A. natural polymer
- B. semisynthetic polymer
- C. synthetic polymer
- D. plasticiser

**Answer: B**



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3. Polypropylene can be obtained by polymerization of \_\_\_\_\_.

- A.  $CH \equiv CH$
- B.  $CH_2=CH_2$
- C.  $CH_3 - CH = CH_2$
- D.  $CH_3 - C \equiv CH$

**Answer: C**



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4. On the basis of the mode of their formation the polymers can be classified:

- A. as addition polymers only
- B. as condensation polymers only
- C. as copolymers
- D. both as addition and condensation polymers

**Answer: D**



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5. Molecular forces that bind polymer chains are \_\_\_\_\_.

A. dipole-dipole interaction

B. hydrogen bonding

C. van der Waal's forces

D. either (B) or (C)

**Answer: D**

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**6. Which of the following is FALSE for elastomers?**

A. These are synthetic polymers

B. In elastomers, tearing is prevented to cross linking

C. Vulcanised rubber is an example of elastomer

D. Elastomers are hard and cannot stretched easily

**Answer: D**

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7. Which of the following is thermoplastic?

- A. PVC
- B. Polythene
- C. Polystyrene
- D. all of these

**Answer: D**



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8. Which of the following statements about polymers is FALSE?

- A. The properties of polymers depend on molecular forces.
- B. Polymer chains form fibres by hydrogen bonding .



C. Thermosetting polymers are either linear or branched chain polymers.

D. Fibers are polymers which possess high tensile strength

**Answer: C**

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9. Which of the following is NOT a homopolymer?

A. Polyethylene

B. PVC

C. Dacron

D. Orlon

**Answer: C**

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10. Saran is a copolymer of \_\_\_\_\_.

- A. styrene and buta-1,3-diene
- B. styrene and acrylonitrile
- C. vinylidene chloride and vinyl chloride
- D. vinyl chloride and styrene

**Answer: C**



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11. Which of the following is a copolymer?

- A. Polystyrene
- B. Buna-S rubber
- C. ABS plastic
- D. both (B) and (C)

**Answer: D**

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12. The intermediates formed in free radical polymerisation depends on \_\_\_\_\_.

- A. monomer
- B. initiator
- C. chain terminating agent
- D. both (A) and (B)

**Answer: D**

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13. During the polymerisation of styrene, the radical formed in first step is \_\_\_\_\_.

- A. benzyl radical
- B. methyl radical
- C. chlorine free radical
- D. ethylene radical

**Answer: A**

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14. Carboxy radicals formed from benzoyl peroxide on \_\_\_\_\_ gives phenyl radical.

- A. deacylation
- B. dehydrogenation
- C. decarboxylation
- D. dehalogenation

**Answer: C**

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15. During the formation of polystyrene, propagating chain can be terminated by \_\_\_\_\_.

- A. coupling of two polymer chains
- B. addition of impurity like oxygen
- C. limiting the supply of ethene
- D. all of these

**Answer: D**

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16. Formation of LDPE using peroxide as an initiator proceeds via formation of \_\_\_\_\_.

- A. only  $1^\circ$  free radicals

B. cations

C. anions

D. both  $1^\circ$  and  $2^\circ$  free radicals

**Answer: D**



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17. LDPE is a branched polymer. Because of branching it has \_\_\_\_\_.

A. low density and low melting point

B. low density and high melting point

C. high density and low melting point

D. high density and high melting point

**Answer: A**



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18. In the manufacture of polythene by the Ziegler process using ethylene, the temperature for proper polymerisation required is

- A. below  $10^{\circ}\text{C}$
- B.  $25^{\circ}\text{C}$  to  $50^{\circ}\text{C}$
- C.  $100^{\circ}\text{C}$
- D.  $350^{\circ}\text{C}$

**Answer: C**



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19. The starting material of PTFE is \_\_\_\_\_.

- A. monochlorotrifluoroethylene
- B. tetrafluoroethylene
- C. vinyl chloride
- D. styrene

**Answer: B**

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20. Which of the following is INCORRECT?

- A. Bifunctional monomers undergo condensation to yield condensation polymers.
- B. Condensation polymer is formed in a stepwise manner via formation of dimer tetramer etc.
- C. Ester or amide linkages are present in the condensation polymer.
- D. All the atoms of monomers are present in the condensation polymer.

**Answer: D**

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21. Synthetic fibres like nylon-6,6 are very strong because they have\_\_\_\_\_.

- A. high molecular weights and high melting points
- B. a high degree of cross-linking by strong C-C bond
- C. linear molecules consisting of very long chain
- D. linear molecules interlinked with forces like hydrogen bonding.

**Answer: D**



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22. Polycaprolactum fibre is \_\_\_\_\_.

- A. polyester
- B. nylon-6,6
- C. nylon-6
- D. terrycot

**Answer: C**

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**23.** Nylon- 6 is so called because

- A. it has 6 monomers
- B. it is formed at  $6^{\circ}\text{C}$
- C. its monomer has 6 carbon atoms
- D. it contains six membered ring

**Answer: C**

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**24.** The catalyst used to prepare polymer of terylene is \_\_\_\_\_.

- A. copper acetate and zinc chloride

- B. zinc acetate and antimony trioxide
- C. sodium sulphate and lead oxide
- D. copper chloride and zinc chloride

**Answer: B**

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25. Which of the following substances is being getting consumed during the preparation of terylene?

- A. Adipic acid
- B. Methyl alcohol
- C. Ethylene glycol
- D. Propylene glycol

**Answer: C**

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26. Which of the following fibres has water repellent property?

A. Jute

B. Silk

C. Dacron

D. Acetate rayon

**Answer: C**



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27. Which of the following is formed when phenol reacts with o-Hydroxybenzyl alcohol?

A. Nylon salt

B. Vinyl acetylene

C. Novolac

D. Vinyl cyanide

**Answer: C**



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**28.** Bakelite is NOT used in the preparation of \_\_\_\_\_.

- A. electrical appliances
- B. combs and fountain pens
- C. handles of cooker
- D. paints and varnishes

**Answer: D**



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**29.** Urea formaldehyde polymer is produced by\_\_\_\_\_.

A. urea + methanol

B. urea + ethanol

C. urea + methanal

D. urea + methanoic acid

**Answer: C**

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**30.** Which of the following is FALSE about Gutta-Percha?

A. It is a trans-1,4-polyisoprene polymer.

B. It is elastic in nature.

C. It has zigzag chains fitting in one another.

D. It shows geometrical isomerism with natural rubber.

**Answer: B**

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31. In vulcanisation of rubber,

- A. sulphur reacts to form new compound
- B. sulphur cross-links are introduced
- C. sulphur forms a very thin protective layer over rubber
- D. all of these

**Answer: B**



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32. Letter 'N' in Buna-N stands for \_\_\_\_\_.

- A. natrium
- B. nitrogen
- C. nitrile

D. sodium

**Answer: C**

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**33.** Which of the following are monomers of butyl rubber?

A. 2-Chlorobuta-1,3-diene and But-1-en-3-yne

B. Buta-1,3-diene and styrene

C. Buta-1,3-diene and acrylonitrile

D. 2-Methylbuta-1,3-diene and 2-Methylprop-1-ene

**Answer: D**

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**34.** The group of synthetic rubber polymers is \_\_\_\_\_.

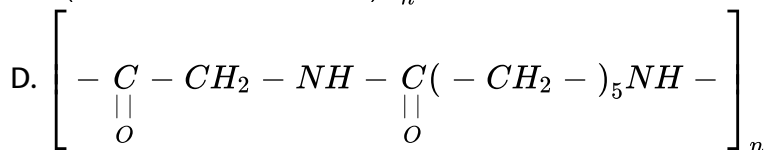
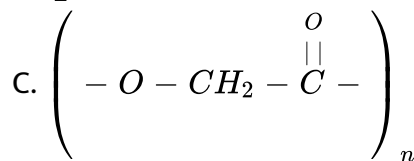
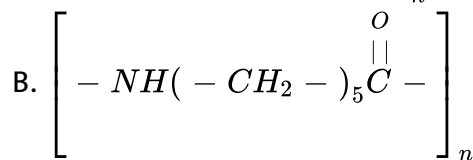
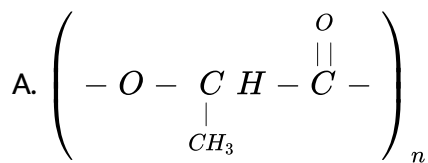


- A. Buna-S, Dacron, Melamine
- B. Buna-S, Neoprene, Bakelite
- C. Neoprene, Buna-S, Buna-N
- D. Orlon, Neoprene, Gutta-Percha

Answer: C

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35. Which of the following represents structure of polyglycolic acid?



**Answer: C**

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**36.** Which of the following sets contain only non-biodegradable polymers?

- A. Plastic, PVC, Nylon
- B. Plastic, PVC, PHBV
- C. PHBV, PVC, Dextron
- D. PHBV, Dextron, Nylon-2-nylon-6

**Answer: A**

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**37.** Which of the following fibre is used for stitching during surgical operation?

A. Terylene

B. Cotton

C. Nylon-2-nylon-6

D. Acetate rayon

**Answer: C**



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**38.** Which of the following is a naturally occurring substance but NOT a polymer?

A. DNA

B. Cellulose

C. ATP

D. Protein

**Answer: C**

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39. Which of the following is natural polymer?

- A. Polyisoprene
- B. Polybutadiene
- C. Polyvinyl chloride
- D. Polyethylene

**Answer: A**

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40. Which of the following is a natural polymer?

- A. Polyester
- B. Glyptal
- C. Starch

D. Nylon-6

**Answer: C**



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**41.** Which of the following polymers are hard?

A. Linear

B. Cross-linked

C. Branched chain

D. Thermoplastic

**Answer: B**



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**42.** From following pairs which is WRONG?

- A. Vegetable fibres - cellulose fibres
- B. Animal fibres - protein fibres
- C. Regenerated fibres – semi-synthetic fibres
- D. Natural fibres – synthetic fibres

**Answer: D**

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**43.** Which one of the following pairs is NOT correctly matched?

- A. Terylene-condensation polymer of terephthalic acid and ethylene glycol.
- B. Teflon-thermal stable cross linked polymer of phenol and formaldehyde.
- C. Superglue-homopolymer of methyl  $\alpha$  cyanoacrylate.
- D. Synthetic rubber-a copolymer of butadiene and styrene.

**Answer: B**



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**44.** The FALSE statement regarding the disadvantages of natural fibre is that \_\_\_\_\_.

- A. they are less durable
- B. they are not crease resistant
- C. they do not dry quickly
- D. they are not attacked by moth

**Answer: D**



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**45.** Nylon is generic name for all synthetic fibre forming

- A. polyesters
- B. polymeric amides
- C. polystyrene
- D. polyethylene

**Answer: B**

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**46.** Nylon clothes are NOT advisable while working with burner, because\_\_\_\_\_

- A. they absorb heat
- B. they absorb little water
- C. they catch fire even from a distance
- D. on catching fire they melt and stick to skin

**Answer: D**



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47. Which of the following is WRONG?

- A. PAN is also called as orlon.
- B. PTFE is called teflon.
- C. SBR is called natural rubber.
- D. LDPE is called low density polyethylene.

**Answer: C**

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48. Example of addition copolymer is

- A. buna-S
- B. neoprene
- C. nylon-6,6

D. dacron

**Answer: A**



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**49. Which one is a homopolymer?**

A. Bakelite

B. Nylon-6,6

C. Terylene

D. Neoprene

**Answer: D**



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50. Glyptal polymer is obtained from ethylene glycol by reacting with\_\_\_\_\_

- A. vinyl chloride
- B. phthalic acid
- C. m-dinitrobenzene
- D. adipic acid

**Answer: B**



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51. Which of the following is chain growth polymer?

- A. Neoprene
- B. Buna-S
- C. PAN
- D. All of these

**Answer: D**

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52. Polymerization of glycol with dicarboxylic acids is \_\_\_\_\_

- A. addition polymerization
- B. condensation polymerization
- C. free radical polymerization
- D. substitution polymerization

**Answer: B**

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**Competitive Thinking**

1. Classical Industrial production of polythene is done by polymerization of \_\_\_\_\_

- A. methane
- B. acetylene
- C. ethylene
- D. styrene

**Answer: C**



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2. PVC polymer can be prepared by which of the monomers?

- A. Ethylene
- B. 1-Chloropropene
- C. Propene
- D. 1-Chloroethene

**Answer: D**



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3. PVC is used for the\_\_\_\_\_.

- A. manufacture of cosmetics
- B. manufacture of tyres
- C. manufacture of non-stick pans
- D. manufacture of plastic pipes

**Answer: D**



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4. This is a thermoplastic:

- A. PVC

B. Bakelite

C. Melamine

D. Protein

**Answer: A**



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5. Three dimensional molecules with cross links are formed in the case of a \_\_\_\_\_.

A. thermoplastic

B. thermosetting plastic

C. normal plastics

D. all of these

**Answer: B**



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6. Correct statement for thermoplastic polymer is

- A. It does not become soft on heating under pressure
- B. It cannot be remoulded
- C. It is either linear or branched chain polymer
- D. It is cross-linked polymer

**Answer: C**



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7. Orlon has monomeric unit:

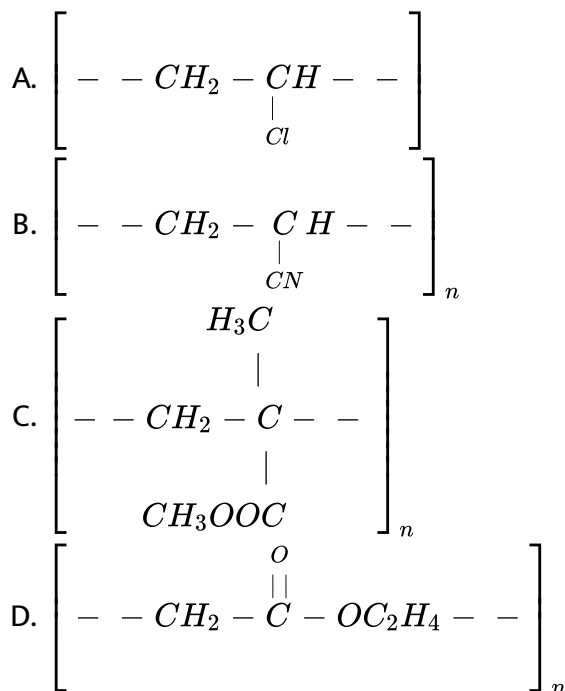
- A. acrolein
- B. glycol
- C. vinyl cyanide
- D. isoprene



Answer: C

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8. Acrilan is a hard, horny and a high melting material. Which of the following represent its structure?



Answer: B

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9. Characteristic property of teflon is

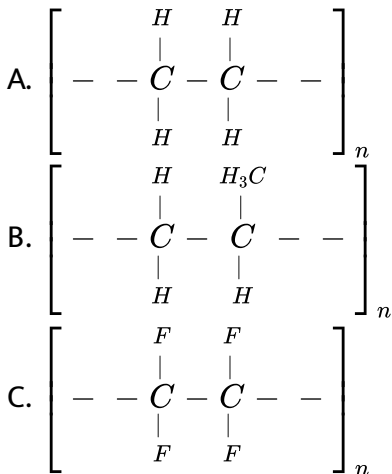
- A. 2000 poise viscosity
- B. high surface tension
- C. non-inflammable and resistant to heat
- D. highly reactive

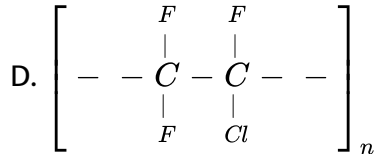
Answer: C



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10. Which of the following is teflon?





**Answer: C**

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11. Which of the following is used to make nonstick cookware?

- A. PVC
- B. Polystyrene
- C. Polyethylene terephthalate
- D. Polytetrafluoroethylene

**Answer: D**

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12. Which of the following statements about low density polythene is false ?

- A. Its synthesis requires high pressure.
- B. It is a poor conductor of electricity.
- C. Its synthesis requires dioxygen or a peroxide initiator as a catalyst.
- D. It is used in the manufacture of buckets,dust-bins, etc.

**Answer: D**



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13. Name the compound/compounds used in the preparation of nylon-66 .

- A. in  $\epsilon$ -caprolactum
- B. Hexamethylenediamine and adipic acid
- C. Dimethyl terephthalate
- D. Hexamethylenediamine

**Answer: B**

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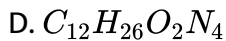
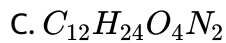
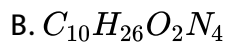
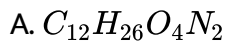
14. Hexamethylene diammonium adipate Inert Atmosphere at 553-573 K undergoes \_\_\_\_\_ reaction.

- A. hydrolysis
- B. disproportionation
- C. polymerisation
- D. transesterification

**Answer: C**

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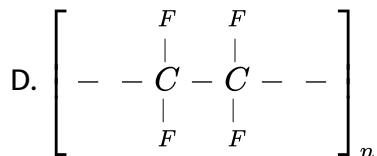
15. Hexamethylene diammonium adipate is \_\_\_\_\_.



Answer: A

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16. Nylon-6,6 is



Answer: A



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17. Which one of the following structures represents nylon-6,6 polymer?

A. 

B. 

C. 

D. 

**Answer: A**



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18. Caprolactam is used for the manufacture of :

A. terylene

B. nylon-6,6

C. nylon-6

D. teflon

**Answer: C**



**Watch Video Solution**

19. Nylon-6 is made from\_\_\_\_\_.

A. isoprene

B. adipic acid

C.  $\epsilon$ -caprolactum

D. styrene

**Answer: C**



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20. The formation of which of the following polymers involves hydrolysis reaction ?

- A. Nylon-6
- B. Bakelite
- C. Nylon-6, 6
- D. Terylene

**Answer: A**



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21. Dacron is the other name of \_\_\_\_.

- A. nylon-6,6
- B. nylon-6
- C. rayon
- D. terylene

**Answer: D**

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22. Which of the following organic compounds polymerize to form the polyester Dacron?

- A. Propylene and para  $\text{HO}-(\text{C}_6\text{H}_4)-\text{OH}$
- B. Benzoic acid and ethanol
- C. Terephthalic acid and ethylene glycol
- D. Benzoic acid and para  $\text{HO}-(\text{C}_6\text{H}_4)-\text{OH}$

**Answer: C**

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23. Terylene is NOT a \_\_\_\_.

- A. copolymer
- B. polyester fibre
- C. chain growth polymer
- D. step growth polymer

**Answer: C**

 [Watch Video Solution](#)

**24.** In transesterification, 1 mole of dimethyl terephthalate consumes how many moles of ethylene glycol?

- A. 4
- B. 3
- C. 2
- D. 1

**Answer: C**

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25. Terylene is a \_\_\_\_\_.

- A. polyamide
- B. polyester
- C. polyethylene
- D. polypropylene

**Answer: B**

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26. Terylene is used for making \_\_\_\_\_.

- A. silks
- B. fabrics
- C. seat belts

D. all of these

**Answer: D**

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27. Terylene is a/an\_\_\_\_\_.

- A. addition polymer with a benzene ring in every repeating unit
- B. condensation polymer with a benzene ring in every repeating unit
- C. addition polymer with two carbon atoms in every repeating unit
- D. condensation polymer with two nitrogen atoms in every repeating unit

**Answer: B**

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28. The compound required for the formation of a thermosetting polymer with methanal is \_\_\_\_\_.

- A. phenylamine
- B. benzene
- C. benzaldehyde
- D. phenol

**Answer: D**



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29. The polymer used in making handles of cookers and frying pans is

- A. bakelite
- B. nylon-2-nylon-6
- C. orlon
- D. polyvinyl chloride

**Answer: A**



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**30.** The monomer of natural polymer rubber is \_\_\_\_.

A. neoprene

B. isoprene

C. chloroprene

D. butadiene

**Answer: B**



**Watch Video Solution**

**31.** Natural rubber has \_\_\_\_\_.

A. alternate cis- and trans-configuration

B. random cis- and trans-configuration

C. all cis-configuration

D. all trans-configuration

**Answer: C**



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**32.** Treatment of rubber with sulphur is called \_\_\_\_\_.

A. vulcanization

B. sulphonation

C. hybridization

D. all of these

**Answer: A**



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33. The following is used for making natural rubber hard:

- A. Petrol
- B.  $H_2SO_4$
- C.  $P_4$
- D.  $S$

**Answer: D**



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34. In vulcanized rubber, the cis-1,4-polyisoprene chains are attached through\_\_\_.

- A. disulphite bond
- B. dipeptide bond
- C. disulphide bond
- D. disulphate bond

**Answer: C**



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**35.** The monomer of Buna-S are :

A. vinyl chloride and sulphur

B. butadiene

C. styrene and butadiene

D. isoprene and butadiene

**Answer: C**



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**36.** In polymer Buna-S: 'S' stands for :

A. sulphur

B. soft

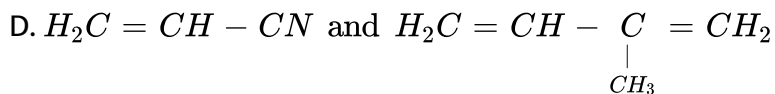
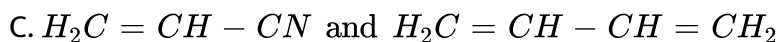
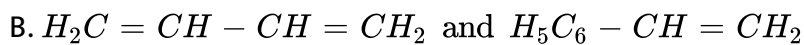
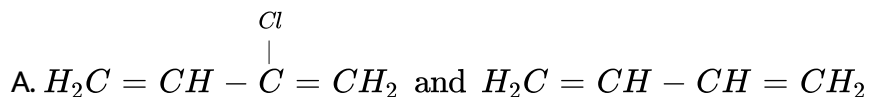
C. styrene

D. sodium

**Answer: C**

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**37.** Buna-N synthetic rubber is a copolymer of:



**Answer: C**

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38. Synthetic rubber is\_\_\_\_\_.

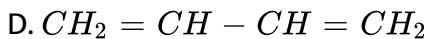
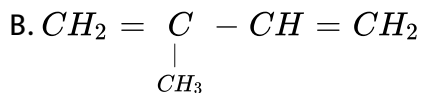
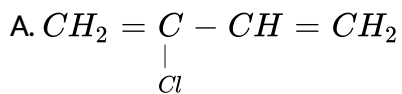
- A. polyester
- B. polyamide
- C. polysaccharide
- D. poly(halodiene)

Answer: D



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39. Which is the monomer of neoprene in the following?



**Answer: A**

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**40.** Which of the following statements is NOT TRUE?

- A. Buna-S is a copolymer of buta-1,3-diene and styrene.
- B. Natural rubber is a 1,4-polymer of isoprene.
- C. In vulcanization, the formation of sulphur bridges between different chains makes rubber harder and stronger.
- D. Natural rubber has the trans-configuration at every double bond.

**Answer: D**

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**41.** Which of the following is a biodegradable polymer?

A. Polyhydroxy butyrate-co-hydroxy valerate

B. Nylon-6

C. Bakelite

D. Polythene

**Answer: A**



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**42.** Biodegradable polymer which can be produced from glycine and aminocaproic acid is

A. nylon-2-nylon-6

B. PHBV

C. buna-N

D. Nylon-6,6

**Answer: A**

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43. Lactic acid and glycollic acid are the monomers used for preparation of polymer\_\_\_\_\_.

A. nylon-2-nylon-6

B. dextran

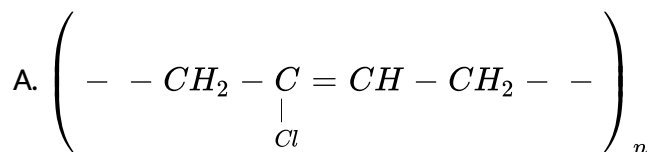
C. PHBV

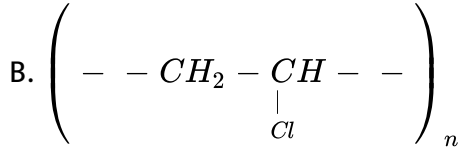
D. buna-N

**Answer: B**

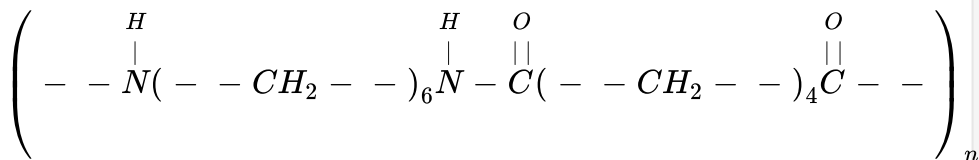
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44. Which one of the following is an example of thermosetting polymer ?





C.



D. 

**Answer: D**



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**45.** Which of the following polymer is an example of fibre ?

A. Silk

B. Dacron

C. Nylon-6,6

D. All of these

**Answer: D**





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46. Which is not a polymer?

- A. Sucrose
- B. Enzyme
- C. Starch
- D. Teflon

**Answer: A**



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47. Synthetic human hair wigs are made from a copolymer of vinyl chloride and acrylonitrile, and is called:

- A. PVC
- B. polyacrylonitrile

C. cellulose

D. dynein

**Answer: D**

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**48.** Point out the dihydroxy diethyl terephthalate .

A. 

B. 

C. 

D. 

**Answer: B**

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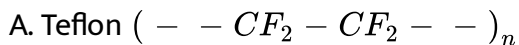
49. Among the following a natural polymer is

- A. Cellulose
- B. PVC
- C. Teflon
- D. Polyethylene

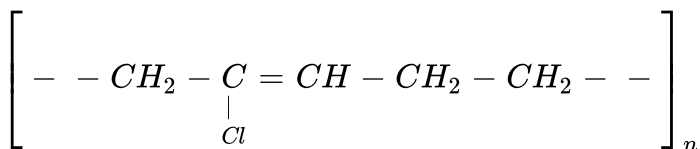
Answer: A

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50. Structures of some common polymers are given. Which one is not correctly represented?



B. Neoprene



C. 

D. Nylon-6,6



**Answer: B**

 [Watch Video Solution](#)

51. Which of the following polymers is used to manufacture clothes for firefighters ?

A. Thiokol

B. Kevlar

C. Nomex

D. Dynel

**Answer: C**

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52. Among cellulose, poly (vinyl chloride), nylon and natural rubber, the polymer in which the intermolecular force of attraction is weakest is

- A. nylon
- B. polyvinyl chloride
- C. cellulose
- D. natural rubber

**Answer: D**

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53. Which of the following is FALSE?

- A. Artificial silk is derived from cellulose.
- B. Nylon-6,6 is an example of elastomer.
- C. The repeat unit in natural rubber is isoprene.

D. Both starch and cellulose are polymers of glucose

**Answer: B**



[Watch Video Solution](#)

54. Bulletproof helmets are made from\_\_\_\_\_.

A. lexan

B. saran

C. glyptal

D. thiokol

**Answer: A**



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55. Which one is classified as a condensation polymer ?

- A. Dacron
- B. Neoprene
- C. Teflon
- D. Acrylonitrile

**Answer: A**

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**56.** The monomers used in preparation of dextran are

- A. lactic acid and glycolic acid
- B. 3-hydroxybutanoic acid and 3-hydroxypentanoic acid
- C. styrene and 1,3-butadiene
- D. hexamethylenediamine and adipic acid

**Answer: A**

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57. Which of the following is regenerated fibre?

- A. Nylon
- B. Nylon-6
- C. Rayon
- D. Terylene

**Answer: C**



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58. The necessary condition for compound to form fibre is

- A. its molecules must be linear
- B. its molecules must be spherical
- C. its molecules must be rectangular



D. its molecules must be hexagonal

**Answer: A**



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59. Hemp is a/an \_\_\_\_\_ fibre.

A. vegetable

B. animal

C. synthetic

D. none of these

**Answer: A**



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60. Which of the following is a chain growth polymer?

A. Polystyrene

B. Protein

C. Starch

D. Nucleic acid

**Answer: A**

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61. Toluene diisocyanate is used to prepare\_\_\_\_\_.

A. polyesters

B. polyamides

C. polycarbonates

D. polyurethanes

**Answer: D**

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62. Which of the following polymer form net like structure ?

- A. Polythene
- B. Butyl rubber
- C. Polystyrene
- D. Melamine polymer

**Answer: D**



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63. Which of the following pair of monomers are used in preparation of PHBV?

- A.  $\beta$ -Hydroxybutyric acid,  $\beta$ -hydroxyvaleric acid
- B.  $\beta$ -Hydroxyvaleric acid, Aminocaproic acid
- C.  $\beta$ -Hydroxybutyric acid, Adipic acid

D. Lactic acid, Adipic acid

**Answer: A**



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**64.** Which polymer is used in the manufacture of paints and lacquers?

A. Bakelite

B. Glyptal

C. Polypropene

D. Poly vinyl chloride

**Answer: B**



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**65.** Identify the heteropolymer from the list given below :

A. Polythene

B. Nylon-6

C. Teflon

D. Nylon-6,6

**Answer: D**

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**66.** Which polymer among the following does not soften on heating ?

A. Bakelite

B. Polythene

C. Polystyrene

D. PVC

**Answer: A**

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67. Identify the addition polymers from the following:

i. Terylene ii. Polypropene iii. Polyacrylonitrile iv. Nylon-6 v. Polyvinyl chloride

A. ii, iii, v

B. i, ii

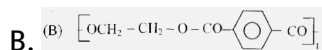
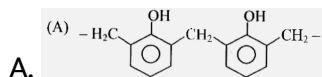
C. i, iv

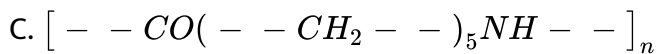
D. ii, iv

Answer: A

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68. Identify condensation homopolymer from the following:





D.



**Answer: C**

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## Evaluation Test

1. A polymer of prop-2-enitrile is called:

- A. saran
- B. orlon
- C. dacron
- D. teflon

**Answer: B**



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2. The catalyst used for olefin polymerization is:

- A. Ziegler-Natta catalyst
- B. Wilkinson catalyst
- C. Raney nickel catalyst
- D. Merrifield resin

**Answer: A**



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3. PHBV polymer contains \_\_\_\_\_

- A. amide linkage
- B. ester linkage
- C. ether linkage



D. both (A) and (B)

**Answer: B**



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4. Polypropylene has \_\_\_\_\_ groups as branches .

A. methyl

B. ethyl

C. propyl

D. cyanide

**Answer: A**



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5. Natural rubber is which type of polymer?

A. Condensation polymer

B. Addition polymer

C. Co-ordination polymer

D. None of these

**Answer: B**

 [Watch Video Solution](#)

**6. Which of the following contains nitrogen ?**

A. Teflon

B. Nylon-6

C. Terylene

D. PVC

**Answer: B**

 [Watch Video Solution](#)

7. The bakelite is made from phenol and formaldehyde. The initial reaction between the two compounds is an example of:

- A. aromatic electrophilic substitution
- B. aromatic nucleophilic substitution
- C. free radical reaction
- D. aldol reaction

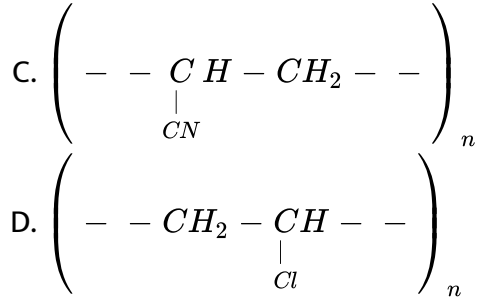
**Answer: A**



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8. Which one of the following polymers will NOT catch fire ?

- A.  $( - - CF_2 - CF_2 - - )_n$
- B.  $( - - CH_2 - CH_2 - - )_n$



**Answer: A**

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9. Which of the following is fully fluorinated polymer?

- A. Teflon
- B. Neoprene
- C. PVC
- D. Thiokol

**Answer: A**

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10. Which of the following is a linear polymer ?

A. Amylopectin

B. Glycogen

C. Starch

D. Amylose

**Answer: D**



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11. The structure of geometrical isomer of Gutta-Percha ?



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